

## DESCRIPTION

<b>Source</b>	Human embryonic kidney cell, HEK293-derived human Angiopoietin-like Protein 1/ANGPTL1 protein Gly24-Asp491, with a C-terminal Flag-tag Accession # O95841
<b>N-terminal Sequence Analysis</b>	Arg22
<b>Structure / Form</b>	Disulfide-linked oligomer
<b>Predicted Molecular Mass</b>	56 kDa

## SPECIFICATIONS

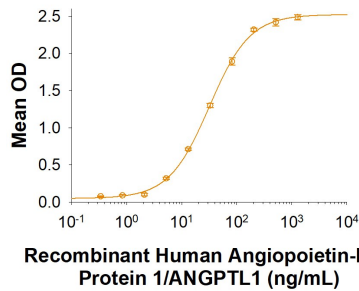
<b>SDS-PAGE</b>	Predominant band at 60 kDa, reducing conditions
<b>Activity</b>	Measured by its binding ability in a functional ELISA. When Recombinant Human Integrin alpha 1 beta 1 Recombinant Human Integrin $\alpha 1\beta 1$ (Catalog # 7064-AB) is used at 1 $\mu\text{g}/\text{mL}$ , Recombinant Human Angiopoietin-like Protein 1/ANGPTL1 binds with an $\text{ED}_{50}$ of 8-80 $\text{ng}/\text{mL}$ .
<b>Endotoxin Level</b>	<0.10 EU per 1 $\mu\text{g}$ of the protein by the LAL method.
<b>Purity</b>	>75%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 $\mu\text{m}$ filtered solution in Tris, NaCl and CHAPS with Trehalose. See Certificate of Analysis for details.

## PREPARATION AND STORAGE

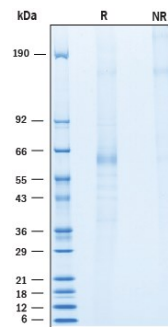
<b>Reconstitution</b>	Reconstitute at 250 $\mu\text{g}/\text{mL}$ in water.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## DATA

### Binding Activity



### SDS-PAGE



**BACKGROUND**

Angiopoietin like Protein 1 (ANGPTL1), also known as Angioarrestin, ARP1 and ANG3, is a secreted glycoprotein that contains a coiled coil domain at the N-terminus and a fibrinogen like domain at the C-terminus (1). ANGPTL1 is one of the seven members of the Angiopoietin-like family proteins. Similar to angiopoietins, ANGPTL1 secretes as a disulfide linked homo-oligomer (2-4). Mature human ANGPTL1 shares 94% sequence identity with its mouse homolog. ANGPTL1 is highly expressed in adrenal gland, placenta, thyroid gland, heart, skeletal muscle and small intestine, and weakly expressed in testis, ovary, colon, pancreas, kidney and stomach (1). Expression of ANGPTL1 is down-regulated in various cancers (4-6). ANGPTL1 has anti-angiogenic functions, inhibiting endothelial cell proliferation, migration, tube formation, and adhesion (4, 5). ANGPTL1 is a tumor suppressor. Over-expression of ANGPTL1 inhibits tumor growth (4, 5), migration, and metastasis (6, 7). Upon binding to integrin  $\alpha 1 / \beta 1$ , the FAK/Src-JAK-STAT3 signaling pathway is inhibited in hepatocellular carcinoma, promoting apoptosis and suppressing cancer invasion and angiogenesis (6). Binding to integrin  $\alpha 1 / \beta 1$  also leads to the inhibition of FAK/ERK/SP1 signaling pathway to induce the expression of micro RNA 630, which suppresses the zinc finger protein SLUG to inhibit lung cancer cell mobility (7). ANGPT-L1 has been shown to directly interact with and antagonize MET receptor activity in hepatocellular carcinoma (8).

**References:**

1. Kim, I. *et al.* (1999), FEBS Lett **443**:353
2. Kim, K-T. *et al.* (2005) J. Biol. Chem. **280**:20126.
3. Procopio, W. N., *et al.* (1999) J. Biol. Chem. **274**:30196
4. Dhanabal, M. *et al.* (2002) Cancer Res **62**:3834.
5. Smagur, A. *et al.* (2005) Acta Biochim Pol. **52**:875.
6. Yan, Q. *et al.* (2017) Cancer Res. **77**:5831.
7. Kuo, T-C. *et al.* (2013) J Clin Invest **123**:1082.
8. Chen H-A, *et al.* (2016) Hematology **64(5)**:1637.